Climate Friendly Parks

Greenparks

Environmental Leadership Program

National Park Service
U.S. Department of the Interior

The Climate Friendly Parks Program is a collaboration of the National Park Service and the U.S. Environmental Protection Agency that helps parks fulfill their role as stewards of the nation's most important natural and cultural resources. By measuring and reducing greenhouse gas emissions, national parks can slow the effects of climate change and serve as models of environmental leadership for present and future generations.

1 Pressure for supplies of fresh water will increase in the Pacific Islands as climate warms. At Hawaii Volcanoes National Park, water conservation plans include improving rainfall catchment, storage, and distribution systems, as well as development of under-utilized or alternative water sources.

2 Melting ice and thawing permafrost will disrupt transportation, buildings, and other facilities at Glacier Bay National Park and Preserve. Arctic warming in Alaska parks has global implications. Indigenous people face major economic and cultural impacts as resources are damaged and species shift northward.

3 Wildland fires in Yosemite National Park are expected to increase in frequency, duration, and range by as much as 80% over the next 100 years, threatening structures and habitats. Scientists also predict expansion of valley forests and a rise in treeline elevation.

4 Propane-powered buses at Zion National Park provide energy-efficient visitor transportation. Long-term vegetation trends in the Southwest favor exotic plant species that serve as ground fuel for larger and more frequent wildfires, resulting in erosion, sedimentation, and threats to native species.

5 When Glacier National Park was established in 1910, one of its most famous glaciers, Grinnell, covered more than 500 acres on the eastern slope of the Continental Divide. Now it barely covers 200 acres of the alpine landscape. Forecasts indicate all glaciers in Glacier National Park will vanish by 2030 if warming persists.

6 An early leader in national park greening initiatives, Yellowstone National Park emphasizes alternative fuels and environmentally preferable procurement practices. Expected disruptions from climate change in the region are more heat, less snowfall, reduced snowpacks, earlier snowmelt, and more wildfires.

7 Reduced snowpack and earlier onset of spring at Rocky Mountain National Park is narrowing the alpine tundra region. While warmer summers would offer visitors a longer season to enjoy the high elevations, plant and animal populations associated specifically with tundra will decrease. Insects, diseases, and elk could also increase.

8 Measurement of dock height above the lake surface at Apostle Islands National Lakeshore shows lower water levels during a record-warm January in 2007. Climate change predictions for the Great Lakes Region include warmer winters, shorter cold seasons, less ice, warmer and drier summers, and more evaporation from lakes.

9 Shorter winters and extreme heat events are occurring more frequently at Pictured Rocks National Lakeshore in the Great Lakes region. The northern Midwest has warmed by almost 4°F in the 20th century. The last spring frost is arriving earlier and the first autumn frost occurs later, expanding the growing season.

10 One of the most biodiverse parks in the System, Great Smoky Mountains National Park faces an increasing number of invasive species. Climate predictions indicate greater frequency of hot days and an increasing rate of evaporation and precipitation, which would exacerbate existing challenges from air pollution and smog.

11 Delaware Water Gap National Recreation Area's environmental education center uses green architecture to convey the importance of sustainability and human interdependency with the environment. Distributions of northern hardwood forest species in the northeast are expected to shift and eventually disappear from most of their range.

12 Gateway National Recreation Area offers opportunities to study the critical role of wetlands in recovery after major storms. Research on the accelerated loss of the Jamaica Bay system has resulted in action to stabilize area marshes. Scientists predict that sea level along the East Coast will continue to rise as temperatures increase.

13 Rising sea level, freshwater drainage, saltwater intrusion, and erosion threatens Everglades National Park. A sea level rise of five feet in parts of the Everglades is expected to accelerate as temperatures increase this century, causing greater storm surges and flooding.

Long-term climate changes being observed include heavy precipitation and severe tropical storms that threaten park resources in coastal locations. *The Americas and Hurricane Andrew* image produced by F. Hasler, M. Jentoft-Nilsen, H. Pierce, K. Palaniappan, and M. Manyin. NASA Goddard Lab for Atmospheres. Data from NOAA.

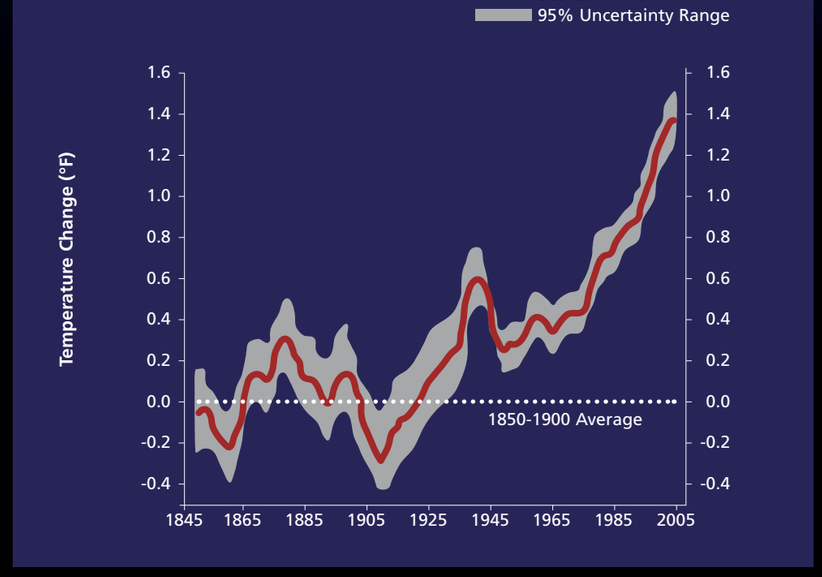
Taking Action on Climate Change

Earth's climate is changing and the unique resources protected within our national parks are experiencing the effects of this change. As research in national parks continues to reveal information about how natural systems are reacting to these conditions, park managers are working to determine the role of national parks in responding to climate change.

Parks in the Climate Friendly Parks program are leading the way. A joint program of the U.S. Environmental Protection Agency and the National Park Service, the Climate Friendly Parks program helps parks reduce greenhouse gas emissions by developing plans to reduce energy and water use, design and construct sustainable facilities, and develop alternative transportation systems. Across the country, park staff, partners and volunteers are forming green teams and developing alliances with a long-term commitment to sustainable practices for national parks and surrounding communities.

Everyone can take action to reduce greenhouse gas emissions and protect national park resources. Consider these options:

- Travel Smart - Walk, bike, carpool, take mass transit, and drive a fuel-efficient car.
- Save Energy - Choose energy-efficient appliances and convert lighting to compact fluorescent bulbs.
- Reduce, Reuse, and Recycle - Buy products with reusable, recyclable, and reduced packaging and support community recycling.



Average global surface temperatures have risen by 1.4°F over the last century. Scientists expect that this average could rise 1.6–6.3°F by 2100, with significant regional variation. Increasing concentrations of greenhouse gases from human activities including fossil fuel combustion for heating and transportation are likely to accelerate the rate of climate change.

Adapted from Pew Center on Global Climate Change, Brohan et al. 2006; ©Crown copyright 2006, data supplied by the Met Office.

For more information go to www.nps.gov/climatefriendlyparks